



#7

## SEQUENCE LISTING

&lt;110&gt; Ebner et al.

&lt;120&gt; PT049P1

&lt;130&gt; Serine/Threonine Phosphatase Polynucleotides, Polypeptides, and Antibodies

&lt;140&gt; US 09/941,831

&lt;141&gt; 2001-08-30

&lt;150&gt; PCT/US01/06256

&lt;151&gt; 2001-02-28

&lt;150&gt; US 60/186,350

&lt;151&gt; 2000-03-02

&lt;160&gt; 32

&lt;170&gt; PatentIn version 3.2

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&lt;211&gt; 733

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

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Arg Tyr Arg Tyr Phe Met Ser Phe Leu Ser  
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Thr Leu Ala Glu Leu Asp Ser Ser Glu Ser Glu Glu Glu Thr Leu His  
35 40 45

Lys Ser Thr Ser Ser Ser Val Ser Pro Ser Phe Pro Glu Glu Pro  
50 55 60

Val Leu Glu Ala Val Ser Thr Arg Lys Lys Pro Pro Lys Phe Leu Pro  
65 70 75 80

Ile Ser Ser Thr Pro Gln Pro Glu Arg Arg Gln Pro Pro Gln Arg Arg  
85 90 95

His Ser Ile Glu Lys Glu Thr Pro Thr Asn Val Arg Gln Phe Leu Pro  
100 105 110

Pro Ser Arg Gln Ser Ser Arg Ser Leu Glu Glu Phe Cys Tyr Pro Val  
115 120 125

Glu Cys Leu Ala Leu Thr Val Glu Glu Val Met His Ile Arg Gln Val  
130 135 140

Leu Val Lys Ala Glu Leu Glu Lys Tyr Gln Gln Tyr Lys Asp Ile Tyr  
 145 150 155 160  
 Thr Ala Leu Lys Lys Gly Lys Leu Cys Phe Cys Cys Arg Thr Arg Arg  
 165 170 175  
 Phe Ser Phe Phe Thr Trp Ser Tyr Thr Cys Gln Phe Cys Lys Arg Pro  
 180 185 190  
 Val Cys Ser Gln Cys Cys Lys Lys Met Arg Leu Pro Ser Lys Pro Tyr  
 195 200 205  
 Ser Thr Leu Pro Ile Phe Ser Leu Gly Pro Ser Ala Leu Gln Arg Gly  
 210 215 220  
 Glu Ser Ser Met Arg Ser Glu Lys Pro Ser Thr Ala His His Arg Pro  
 225 230 235 240  
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 245 250 255  
 Ser Asp Glu Glu Leu Gln Phe Pro Lys Glu Leu Met Glu Asp Trp Ser  
 260 265 270  
 Thr Met Glu Val Cys Val Asp Cys Lys Lys Phe Ile Ser Glu Ile Ile  
 275 280 285  
 Ser Ser Ser Arg Arg Ser Leu Val Leu Ala Asn Lys Arg Ala Arg Leu  
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 Lys Arg Lys Thr Gln Ser Phe Tyr Met Ser Ser Pro Gly Pro Ser Glu  
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 Tyr Cys Pro Ser Glu Arg Thr Ile Ser Glu Ile  
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 35 40 45

Leu Arg Glu Ala Arg Lys Lys Lys Glu Val Leu Ser Leu Gly Tyr His  
 50 55 60

Gly Asn Val Val Ala Leu Trp Glu Arg Leu Val His Glu Leu Asp Thr  
 65 70 75 80

Thr Gly Glu Cys Leu Val Asp Leu Gly Ser Asp Gln Thr Ser Cys His

85

90

95

Asn Pro Phe Asn Gly Gly Tyr Tyr Pro Val Gln Leu Ser Phe Thr Glu  
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Ala Gln Ser Leu Met Ala Ser Asn Pro Ala Val Phe Lys Asp Leu Val  
 115 120 125

Gln Glu Ser Leu Arg Arg Gln Val Ser Ala Ile Asn Arg Leu Ala Glu  
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Glu Lys Phe Phe Phe Trp Asp Tyr Gly Asn Ala Phe Leu Leu Glu Ala  
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Gln Arg Ala Gly Ala Asp Val Glu Lys Lys Gly Ala Gly Arg Thr Glu  
 165 170 175

Phe Arg Tyr Pro Ser Tyr Val Gln His Ile Met Gly Asp Ile Phe Ser  
 180 185 190

Gln Gly Phe Gly Pro Phe Arg Trp Val Cys Thr Ser Gly Asp Pro Gln  
 195 200 205

Asp Leu Ala Val Thr Asp Glu Leu Ala Thr Ser Val Leu Glu Glu Ala  
 210 215 220

Ile Ala Asp Gly Val Lys Val Ser Val Lys Leu Gln Tyr Met Asp Asn  
 225 230 235 240

Ile Arg Trp Ile Arg Glu Ala Ala Arg His Arg Leu Val Val Gly Ser  
 245 250 255

Gln Ala Arg Ile Leu Tyr Ser Asp Gln Lys Gly Arg Val Ala Ile Ala  
 260 265 270

Val Ala Ile Asn Gln Ala Ile Ala Cys Arg Arg Ile Lys Ala Pro Val  
 275 280 285

Val Leu Ser Arg Asp His His Asp Val Ser Gly Thr Asp Ser Pro Phe  
 290 295 300

Arg Glu Thr Ser Asn Ile Tyr Asp Gly Ser Ala Phe Cys Ala Asp Met  
 305 310 315 320

Ala Val Gln Asn Phe Val Gly Asp Ala Cys Arg Gly Ala Thr Trp Val  
 325 330 335

Ala Leu His Asn Gly Gly Val Gly Trp Gly Glu Val Ile Asn Gly  
 340 345 350

Gly Phe Gly Leu Val Leu Asp Gly Thr Pro Glu Ala Glu Gly Arg Ala  
 355 360 365

Arg Leu Met Leu Ser Trp Asp Val Ser Asn Gly Val Ala Arg Arg Cys  
 370 375 380

Trp Ser Gly Asn Gln Lys Ala Tyr Glu Ile Ile Cys Gln Thr Met Gln  
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Glu Asn Ser Thr Leu Val Val Thr Leu Pro His Lys Val Glu Asp Glu

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410

415

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 35 40 45

Gly Leu Asp Ala Thr Pro Gln Asp Gln Ala Val Leu His Arg Asn Arg  
 50 55 60

Ala Ala Cys His Leu Lys Leu Glu Asp Tyr Asp Lys Ala Glu Thr Glu  
 65 70 75 80

Ala Ser Lys Ala Ile Glu Lys Asp Gly Gly Asp Val Lys Ala Leu Tyr  
 85 90 95

Arg Arg Ser Gln Ala Leu Glu Lys Leu Gly Arg Leu Asp Gln Ala Val  
 100 105 110

Leu Asp Leu Gln Arg Cys Val Ser Leu Glu Pro Lys Asn Lys Val Phe  
 115 120 125

Gln Glu Ala Leu Arg Asn Ile Gly Gly Gln Ile Gln Glu Lys Val Arg  
 130 135 140

Tyr Met Ser Ser Thr Asp Ala Lys Val Glu Gln Met Phe Gln Ile Leu  
 145 150 155 160

Leu Asp Pro Glu Glu Lys Gly Thr Glu Lys Lys Gln Lys Ala Ser Gln  
 165 170 175

Asn Leu Val Val Leu Ala Arg Glu Asp Ala Gly Ala Glu Lys Ile Phe  
 180 185 190

Arg Ser Asn Gly Val Gln Leu Leu Gln Arg Leu Leu Asp Met Gly Glu  
 195 200 205

Thr Asp Leu Met Leu Ala Ala Leu Arg Thr Leu Val Gly Ile Cys Ser  
 210 215 220

Glu His Gln Ser Arg Thr Val Ala Thr Leu Ser Ile Leu Gly Thr Arg  
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Arg Val Val Ser Ile Leu Gly Val Glu Ser Gln Ala Val Ser Leu Ala  
 245 250 255

Ala Cys His Leu Leu Gln Val Met Phe Asp Ala Leu Lys Glu Gly Val  
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           275                     280                     285  
  
 Arg Glu Leu Lys Val Leu Ile Ser Asn Leu Leu Asp Leu Leu Thr Glu  
           290                     295                     300  
  
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           325                     330                     335  
  
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 Ser Leu Gln Asp Pro Pro Gly Glu Leu Ala Val Thr Ala Asn Ser Arg  
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 Met Ser Ala Ser Ile Leu Leu Ser Lys Leu Phe Asp Asp Leu Lys Cys  
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 Asp Ala Glu Arg Glu Asn Phe His Arg Leu Cys Glu Asn Tyr Ile Lys  
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 Ser Trp Phe Glu Gly Gln Gly Leu Ala Gly Lys Leu Arg Ala Ile Gln  
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 Thr Val Ser Cys Leu Leu Gln Gly Pro Cys Asp Ala Gly Asn Arg Ala  
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 Glu Gln Glu Glu Gln Leu Val Ala Val Glu Ala Leu Ile His Ala  
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 Ala Gly Lys Ala Lys Arg Ala Ser Phe Ile Thr Ala Asn Gly Val Ser  
           465                     470                     475                     480  
  
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 Arg Ala Leu Val Gly Leu Cys Lys Leu Gly Ser Ala Gly Gly Thr Asp  
           500                     505                     510  
  
 Phe Ser Met Lys Gln Phe Ala Glu Gly Ser Thr Leu Lys Leu Ala Lys  
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 Gln Cys Arg Lys Trp Leu Cys Asn Asp Gln Ile Asp Ala Gly Thr Arg  
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 Lys Glu Glu Phe Val Glu Asp Ala Ala Ala Leu Lys Ala Leu Phe Gln  
           565                     570                     575

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 Met Val Glu Leu Ala Lys Tyr Ala Lys Gln His Val Pro Glu Gln His  
 610 615 620  
 Pro Lys Asp Lys Pro Ser Phe Val Arg Ala Arg Val Lys Lys Leu Leu  
 625 630 635 640  
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 645 650 655  
 Pro Val Leu Thr Ser Ser Cys Arg Glu Leu Leu Ser Arg Val Phe Leu  
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 675 680 685  
 Gly Gly Arg Ala Leu Ile Pro Leu Ala Leu Glu Gly Thr Asp Val Gly  
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 885 890 895

Ala Ser Thr Leu Met Glu Ser Glu Met Met Glu Ile Leu Ser Val Leu  
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Ala Lys Gly Asp His Ser Pro Val Thr Arg Ala Ala Ala Cys Leu  
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<212> PRT

<213> Homo sapiens

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Arg Met Gly Ile Pro Asn Arg Asn Trp Thr Ile Thr Asp Ala Asn Arg  
20 25 30

Asn Tyr Glu Ile Cys Ser Thr Tyr Pro Pro Glu Ile Val Val Pro Lys  
35 40 45

Ser Val Thr Leu Gly Thr Val Val Gly Ser Ser Lys Phe Arg Ser Lys  
50 55 60

Glu Arg Val Pro Val Leu Ser Tyr Leu Tyr Lys Glu Asn Asn Ala Ala  
65 70 75 80

Ile Cys Arg Cys Ser Gln Pro Leu Ser Gly Phe Tyr Thr Arg Cys Val  
85 90 95

Asp Asp Glu Leu Leu Glu Ala Ile Ser Gln Thr Asn Pro Gly Ser  
100 105 110

Gln Phe Met Tyr Val Val Asp Thr Arg Pro Lys Ile Trp His Phe Leu  
115 120 125

Val Leu Ile Met Arg Ile Val Leu Gln Leu Ala Lys Met Asn Leu Met  
130 135 140

Asp Ile Thr Lys Ile Phe Ser Leu Leu Gln Pro Asp Lys Glu Glu Glu  
145 150 155 160

Asp Thr Asp Thr Glu Glu Lys Gln Ala Leu Asn Gln Ala Val Tyr Asp  
165 170 175

Asn Asp Ser Tyr Thr Leu Asp Gln Leu Leu Arg Gln Glu Arg Tyr Lys  
180 185 190

Arg Phe Ile Asn Ser Arg Ser Gly Trp Gly Val Pro Gly Thr Pro Leu  
195 200 205

Arg Leu Ala Ala Ser Tyr Gly His Leu Ser Cys Leu Gln Val Leu Leu  
210 215 220

Ala His Gly Ala Asp Val Asp Ser Leu Asp Val Lys Ala Gln Thr Pro  
 225 230 235 240  
 Leu Phe Thr Ala Val Ser His Gly His Leu Asp Cys Val Arg Val Leu  
 245 250 255  
 Leu Glu Ala Gly Ala Ser Pro Gly Gly Ser Ile Tyr Asn Asn Cys Ser  
 260 265 270  
 Pro Val Leu Thr Ala Ala Arg Asp Gly Ala Val Ala Ile Leu Gln Glu  
 275 280 285  
 Leu Leu Asp His Gly Ala Glu Ala Asn Val Lys Ala Lys Leu Pro Val  
 290 295 300  
 Trp Ala Ser Asn Ile Ala Ser Cys Ser Gly Pro Leu Tyr Leu Ala Ala  
 305 310 315 320  
 Val Tyr Gly His Leu Asp Cys Phe Arg Leu Leu Leu Leu His Gly Ala  
 325 330 335  
 Asp Pro Asp Tyr Asn Cys Thr Asp Gln Gly Leu Leu Ala Arg Val Pro  
 340 345 350  
 Arg Pro Arg Thr Leu Leu Glu Ile Cys Leu His His Asn Cys Glu Pro  
 355 360 365  
 Glu Tyr Ile Gln Leu Leu Ile Asp Phe Gly Ala Asn Ile Tyr Leu Pro  
 370 375 380  
 Ser Leu Ser Leu Asp Leu Thr Ser Gln Asp Asp Lys Gly Ile Ala Leu  
 385 390 395 400  
 Leu Leu Gln Ala Arg Ala Thr Pro Arg Ser Leu Leu Ser Gln Val Arg  
 405 410 415  
 Leu Val Val Arg Arg Ala Leu Cys Gln Ala Gly Gln Pro Gln Ala Ile  
 420 425 430  
 Asn Gln Leu Asp Ile Pro Pro Met Leu Ile Ser Tyr Leu Lys His Gln  
 435 440 445  
 Leu

<210> 21  
 <211> 199  
 <212> PRT  
 <213> Homo sapiens

<400> 21  
 Met Trp Val Trp Pro Ser Thr Trp Ala Thr Val Met Gly Ser Pro Lys  
 1 5 10 15  
 Ala Pro Tyr Leu Gln Ala Ala Ser Val Val Ser Leu Ser Trp Phe Phe  
 20 25 30  
 Thr Phe Gly Val Ala Ile Phe Ser Arg Ser Pro Trp Ala Cys Ser Ala

35

40

45

Asp Ile Pro Ala Phe Ser Ala Ala Ala Arg Met Leu Cys Gly Ser Val  
 50 55 60

Met Ser Ser Phe Trp Glu Glu Glu Lys Thr Ala Gly Arg Arg Cys Gly  
 65 70 75 80

Glu Arg Gly Val Thr Gly Arg Thr Val Asp Pro Pro Gly Gly Arg  
 85 90 95

Ile Met Thr Leu Lys Thr Cys Leu Gly Lys Val Arg Lys Ser Ser Lys  
 100 105 110

Val Leu Pro Glu Asp Ser Gln Ser Pro Thr Leu Thr Leu Asp Gln Thr  
 115 120 125

Arg Ile His Ser Ser Arg Asp Ala Phe Ser Ser Ile Ser Gly Cys Ser  
 130 135 140

Lys Phe Thr Ala Val Arg Lys Arg Met Ala Asp Lys Leu Pro Val Gly  
 145 150 155 160

Gln Arg His Pro Glu Ala Gly Leu Leu Leu Leu Ser Trp Trp Arg  
 165 170 175

Thr Ser Ser Ser Leu Leu Leu Thr Ser Pro Arg Ala Pro Pro Pro Ser  
 180 185 190

Ala Ser His Pro Arg Phe Pro  
 195

&lt;210&gt; 22

&lt;211&gt; 141

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 22

Met Lys Val Lys Ser Leu Glu Asp Ala Glu Lys Asn Pro Lys Ala Ile  
 1 5 10 15

Asp Thr Trp Ile Glu Ser Ile Ser Glu Leu His Arg Ser Lys Pro Pro  
 20 25 30

Ala Thr Val His Tyr Thr Arg Pro Met Pro Asp Ile Asp Thr Leu Met  
 35 40 45

Gln Glu Trp Ser Pro Glu Phe Glu Glu Leu Leu Gly Lys Val Ser Leu  
 50 55 60

Pro Thr Ala Glu Ile Asp Cys Ser Leu Ala Glu Tyr Ile Asp Met Ile  
 65 70 75 80

Cys Ala Ile Leu Asp Ile Pro Val Tyr Lys Ser Arg Ile Gln Ser Leu  
 85 90 95

His Leu Leu Phe Ser Leu Tyr Ser Glu Phe Lys Asn Ser Gln His Phe  
 100 105 110

Lys Ala Leu Ala Glu Gly Lys Lys Ala Phe Thr Pro Ser Ser Asn Ser  
 115 120 125  
 Thr Ser Gln Ala Gly Asp Met Glu Thr Leu Thr Phe Ser  
 130 135 140  
  
 <210> 23  
 <211> 234  
 <212> PRT  
 <213> Homo sapiens  
  
 <400> 23  
 Ala Arg Gly Ile Ile Lys Ile Val His Lys Asn Arg Ala Gln Met Leu  
 1 5 10 15  
 Thr Arg Asp Arg Ala Phe Glu Ser Thr Leu Lys Ser Trp Glu Asp Lys  
 20 25 30  
 Gln Lys Cys Asp Ser Gly Lys Pro Val Leu Arg Thr His Leu Tyr Ile  
 35 40 45  
 His His Ala Ile Asp Leu Ala Thr Glu Glu Val Ser Gln Met Gln Leu  
 50 55 60  
 Cys Ser Gln Ala Ala Glu Glu Leu Ile Thr Arg Ile Cys Asp Ala Ala  
 65 70 75 80  
 Thr Ile His Cys Leu Leu Glu Gln Glu Leu Ala His Ala Val Asn Ala  
 85 90 95  
 Cys Ser His Ala Leu Asn Lys Ala Asn Pro Arg Cys Pro Glu Ser Leu  
 100 105 110  
 Thr Arg Asp Thr Ala Thr Glu Ile Ala Ile Asn Val Lys Ala Leu Tyr  
 115 120 125  
 Asn Glu Thr Glu Ser Leu Leu Val Gly Arg Val Pro Leu Gln Leu Glu  
 130 135 140  
 Ser Pro His Glu Glu Arg Val Ser Asn Ala Leu His Ser Val Glu Val  
 145 150 155 160  
 Glu Leu Gln Lys Leu Thr Glu Ile Pro Trp Leu Tyr Tyr Ile Leu His  
 165 170 175  
 Pro Asn Glu Asp Glu Glu Pro Pro Met Asp Cys Thr Lys Arg Asn Asn  
 180 185 190  
 Arg Ser Thr Val Phe Arg Ile Val Pro Lys Phe Lys Lys Glu Lys Val  
 195 200 205  
 Gln Lys Gln Lys Thr Ser Ser Gln Pro Gly Ser Gly Asp Thr Glu Ser  
 210 215 220  
 Gly Ser Cys Glu Ala Asn Ser Pro Gly Asn  
 225 230

<210> 24

<211> 96  
 <212> PRT  
 <213> Homo sapiens

<400> 24  
 Met Ala Glu Val Glu Glu Thr Leu Lys Arg Leu Gln Ser Gln Lys Gly  
 1 5 10 15

Val Gln Gly Ile Ile Val Val Asn Thr Glu Gly Ile Pro Ile Lys Ser  
 20 25 30

Thr Met Asp Asn Pro Thr Thr Gln Tyr Ala Ser Leu Met His Ser  
 35 40 45

Phe Ile Leu Lys Ala Arg Ser Thr Val Arg Asp Ile Asp Pro Gln Asn  
 50 55 60

Asp Leu Thr Phe Leu Arg Ile Arg Ser Lys Lys Asn Glu Ile Met Val  
 65 70 75 80

Ala Pro Asp Lys Asp Tyr Phe Leu Ile Val Ile Gln Asn Pro Thr Glu  
 85 90 95

<210> 25  
 <211> 696  
 <212> PRT  
 <213> Homo sapiens

<400> 25  
 Met Lys Lys Lys Ile Glu Gly Tyr Gln Glu Phe Ser Ala Lys Pro Leu  
 1 5 10 15

Ala Ser Arg Val Asp Pro Glu Lys Asp Asn Glu Thr Asp Gln Gly Ser  
 20 25 30

Asn Ser Glu Lys Val Ala Glu Glu Ala Gly Glu Lys Gly Pro Thr Pro  
 35 40 45

Pro Leu Pro Ser Ala Pro Leu Ala Pro Glu Lys Asp Ser Ala Leu Val  
 50 55 60

Pro Gly Ala Ser Lys Gln Pro Leu Thr Ser Pro Ser Ala Leu Val Asp  
 65 70 75 80

Ser Lys Gln Glu Ser Lys Leu Cys Cys Phe Thr Glu Ser Pro Glu Ser  
 85 90 95

Glu Pro Gln Glu Ala Ser Phe Pro Ser Phe Pro Thr Thr Gln Pro Pro  
 100 105 110

Leu Ala Asn Gln Asn Glu Thr Glu Asp Asp Lys Leu Pro Ala Met Ala  
 115 120 125

Asp Tyr Ile Ala Asn Cys Thr Val Lys Val Asp Gln Leu Gly Ser Asp  
 130 135 140

Asp Ile His Asn Ala Leu Lys Gln Thr Pro Lys Val Leu Val Val Gln  
 145 150 155 160  
 Ser Phe Asp Met Phe Lys Asp Lys Asp Leu Thr Gly Pro Met Asn Glu  
 165 170 175  
 Asn His Gly Leu Asn Tyr Thr Pro Leu Leu Tyr Ser Arg Gly Asn Pro  
 180 185 190  
 Gly Ile Met Ser Pro Leu Ala Lys Lys Lys Leu Leu Ser Gln Val Ser  
 195 200 205  
 Gly Ala Ser Leu Ser Ser Tyr Pro Tyr Gly Ser Pro Pro Pro Leu  
 210 215 220  
 Ile Ser Lys Lys Lys Leu Ile Ala Arg Asp Asp Leu Cys Ser Ser Leu  
 225 230 235 240  
 Ser Gln Thr His His Gly Gln Ser Thr Asp His Met Ala Val Ser Arg  
 245 250 255  
 Pro Ser Val Ile Gln His Val Gln Ser Phe Arg Ser Lys Pro Ser Glu  
 260 265 270  
 Glu Arg Lys Thr Ile Asn Asp Ile Phe Lys His Glu Lys Leu Ser Arg  
 275 280 285  
 Ser Asp Pro His Arg Cys Ser Phe Ser Lys His His Leu Asn Pro Leu  
 290 295 300  
 Ala Asp Ser Tyr Val Leu Lys Gln Glu Ile Gln Glu Gly Lys Asp Lys  
 305 310 315 320  
 Leu Leu Glu Lys Arg Ala Leu Pro His Ser His Met Pro Ser Phe Leu  
 325 330 335  
 Ala Asp Phe Tyr Ser Ser Pro His Leu His Ser Leu Tyr Arg His Thr  
 340 345 350  
 Glu His His Leu His Asn Glu Gln Thr Ser Lys Tyr Pro Ser Arg Asp  
 355 360 365  
 Met Tyr Arg Glu Ser Glu Asn Ser Ser Phe Pro Ser His Arg His Gln  
 370 375 380  
 Glu Lys Leu His Val Asn Tyr Leu Thr Ser Leu His Leu Gln Asp Lys  
 385 390 395 400  
 Lys Ser Ala Ala Ala Glu Ala Pro Thr Asp Asp Gln Pro Thr Asp Leu  
 405 410 415  
 Ser Leu Pro Lys Asn Pro His Lys Pro Thr Gly Lys Val Leu Gly Leu  
 420 425 430  
 Ala His Ser Thr Thr Gly Pro Gln Glu Ser Lys Gly Ile Ser Gln Phe  
 435 440 445  
 Gln Val Leu Gly Ser Gln Ser Arg Asp Cys His Pro Lys Ala Cys Arg  
 450 455 460

Val Ser Pro Met Thr Met Ser Gly Pro Lys Lys Tyr Pro Glu Ser Leu  
 465 470 475 480

Ser Arg Ser Gly Lys Pro His His Val Arg Leu Glu Asn Phe Arg Lys  
 485 490 495

Met Glu Gly Met Val His Pro Ile Leu His Arg Lys Met Ser Pro Gln  
 500 505 510

Asn Ile Gly Ala Ala Arg Pro Ile Lys Arg Ser Leu Glu Asp Leu Asp  
 515 520 525

Leu Val Ile Ala Gly Lys Lys Ala Arg Ala Val Ser Pro Leu Asp Pro  
 530 535 540

Ser Lys Glu Val Ser Gly Lys Glu Lys Ala Ser Glu Gln Glu Ser Glu  
 545 550 555 560

Gly Ser Lys Ala Ala His Gly Gly His Ser Gly Gly Ser Glu Gly  
 565 570 575

His Lys Leu Pro Leu Ser Ser Pro Ile Phe Pro Gly Leu Tyr Ser Gly  
 580 585 590

Ser Leu Cys Asn Ser Gly Leu Asn Ser Arg Leu Pro Ala Gly Tyr Ser  
 595 600 605

His Ser Leu Gln Tyr Leu Lys Asn Gln Thr Val Leu Ser Pro Leu Met  
 610 615 620

Gln Pro Leu Ala Phe His Ser Leu Val Met Gln Arg Gly Ile Phe Thr  
 625 630 635 640

Ser Pro Thr Asn Ser Gln Gln Leu Tyr Arg His Leu Ala Ala Ala Thr  
 645 650 655

Pro Val Gly Ser Ser Tyr Gly Asp Leu Leu His Asn Ser Ile Tyr Pro  
 660 665 670

Leu Ala Ala Ile Asn Pro Gln Ala Ala Phe Pro Ser Ser Gln Leu Ser  
 675 680 685

Ser Val His Pro Ser Thr Lys Leu  
 690 695

<210> 26  
 <211> 132  
 <212> PRT  
 <213> Homo sapiens

<400> 26  
 His Glu Ile Glu His Gly Glu Phe Glu Lys Asn Leu Tyr Gly Thr Ser  
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Ile Asp Ser Val Arg Gln Val Ile Asn Ser Gly Lys Ile Cys Leu Leu  
 20 25 30

Ser Leu Arg Thr Gln Ser Leu Lys Thr Leu Arg Asn Ser Asp Leu Lys  
 35 40 45

Pro Tyr Ile Ile Phe Ile Ala Pro Pro Ser Gln Glu Arg Leu Arg Ala  
50 55 60

Leu Leu Ala Lys Glu Gly Lys Asn Pro Lys Pro Glu Glu Leu Arg Glu  
65 70 75 80

Ile Ile Glu Lys Thr Arg Glu Met Glu Gln Asn Asn Gly His Tyr Phe  
85 90 95

Asp Thr Ala Ile Val Asn Ser Asp Leu Asp Lys Ala Tyr Gln Glu Leu  
100 105 110

Leu Arg Leu Ile Asn Lys Leu Asp Thr Glu Pro Gln Trp Val Pro Ser  
115 120 125

Thr Trp Leu Arg  
130

<210> 27  
<211> 95  
<212> PRT  
<213> Homo sapiens

<400> 27  
Met Leu Ser Ser Gly Thr Val Gly Lys Arg Gln Asn Asn Ser Gln Phe  
1 5 10 15

Gln Val Pro Lys Met Pro Trp Lys Ala Ser Val Glu Gly Thr Arg Thr  
20 25 30

Asn His Pro Ala Lys Ile Pro Ala Gly Ser Ser Ser Ala Leu Gly Ser  
35 40 45

Trp Arg His Asp Gly Leu Leu Gln Glu His Thr Glu Lys Ser Thr Gln  
50 55 60

Lys Gly Tyr Phe Gly Glu Ala Val Trp Thr Leu Arg Cys Thr Ala Glu  
65 70 75 80

Gly Glu Leu Gly Asn Pro Arg Pro Glu Val Ser Ile Gly Tyr Phe  
85 90 95

<210> 28  
<211> 558  
<212> PRT  
<213> Homo sapiens

<400> 28  
Met Tyr Ser Pro Ile Ile Tyr Gln Ala Leu Cys Glu His Val Gln Thr  
1 5 10 15

Gln Met Ser Leu Met Asn Asp Leu Thr Ser Lys Asn Ile Pro Asn Gly  
20 25 30

Ile Pro Ala Val Pro Cys His Ala Pro Ser His Ser Glu Ser Gln Ala  
35 40 45

Thr Pro His Ser Ser Tyr Gly Leu Cys Thr Ser Thr Pro Val Trp Ser  
       50                      55                      60  
  
 Leu Gln Arg Pro Pro Cys Pro Pro Lys Val His Ser Glu Val Gln Thr  
       65                      70                      75                      80  
  
 Asp Gly Asn Ser Gln Phe Ala Ser Gln Gly Lys Thr Val Ser Ala Thr  
       85                      90                      95  
  
 Cys Thr Asp Val Leu Arg Asn Ser Phe Asn Thr Ser Pro Gly Val Pro  
       100                    105                      110  
  
 Cys Ser Leu Pro Lys Thr Asp Ile Ser Ala Ile Pro Thr Leu Gln Gln  
       115                    120                      125  
  
 Leu Gly Leu Val Asn Gly Ile Leu Pro Gln Gln Gly Ile His Lys Glu  
       130                    135                      140  
  
 Thr Asp Leu Leu Lys Cys Ile Gln Thr Tyr Leu Ser Leu Phe Arg Ser  
       145                    150                      155                      160  
  
 His Gly Lys Glu Thr His Leu Asp Ser Gln Thr His Arg Ser Pro Thr  
       165                    170                      175  
  
 Gln Ser Gln Pro Ala Phe Leu Ala Thr Asn Glu Glu Lys Cys Ala Arg  
       180                    185                      190  
  
 Glu Gln Ile Arg Glu Ala Thr Ser Glu Arg Lys Asp Leu Asn Ile His  
       195                    200                      205  
  
 Val Arg Asp Thr Lys Thr Val Lys Asp Val Gln Lys Ala Lys Asn Val  
       210                    215                      220  
  
 Asn Lys Thr Ala Glu Lys Val Arg Ile Ile Lys Tyr Leu Leu Gly Glu  
       225                    230                      235                      240  
  
 Leu Lys Ala Leu Val Ala Glu Gln Glu Asp Ser Glu Ile Gln Arg Leu  
       245                    250                      255  
  
 Ile Thr Glu Met Glu Ala Cys Ile Ser Val Leu Pro Thr Val Ser Gly  
       260                    265                      270  
  
 Asn Thr Asp Ile Gln Val Glu Ile Ala Leu Ala Met Gln Pro Leu Arg  
       275                    280                      285  
  
 Ser Glu Asn Ala Gln Leu Arg Arg Gln Leu Arg Ile Leu Asn Gln Gln  
       290                    295                      300  
  
 Leu Arg Glu Gln Gln Lys Thr Gln Lys Pro Ser Gly Ala Val Asp Cys  
       305                    310                      315                      320  
  
 Asn Leu Glu Leu Phe Ser Leu Gln Ser Leu Asn Met Ser Leu Gln Asn  
       325                    330                      335  
  
 Gln Leu Glu Glu Ser Leu Lys Ser Gln Glu Leu Leu Gln Ser Lys Asn  
       340                    345                      350  
  
 Glu Glu Leu Leu Lys Val Ile Glu Asn Gln Lys Asp Glu Asn Lys Lys  
       355                    360                      365

Phe Ser Ser Ile Phe Lys Asp Lys Asp Gln Thr Ile Leu Glu Asn Lys  
 370                        375                        380  
  
 Gln Gln Tyr Asp Ile Glu Ile Thr Arg Ile Lys Ile Glu Leu Glu Glu  
 385                        390                        395                        400  
  
 Ala Leu Val Asn Val Lys Ser Ser Gln Phe Lys Leu Glu Thr Ala Glu  
 405                        410                        415  
  
 Lys Glu Asn Gln Ile Leu Gly Ile Thr Leu Arg Gln Arg Asp Ala Glu  
 420                        425                        430  
  
 Val Thr Arg Leu Arg Glu Leu Thr Arg Thr Leu Gln Thr Ser Met Ala  
 435                        440                        445  
  
 Lys Leu Leu Ser Asp Leu Ser Val Asp Ser Ala Arg Cys Lys Pro Gly  
 450                        455                        460  
  
 Asn Asn Leu Thr Lys Ser Leu Leu Asn Ile His Asp Lys Gln Leu Gln  
 465                        470                        475                        480  
  
 His Asp Pro Ala Pro Ala His Thr Ser Ile Met Ser Tyr Leu Asn Lys  
 485                        490                        495  
  
 Leu Glu Thr Asn Tyr Ser Phe Thr His Ser Glu Pro Leu Ser Thr Ile  
 500                        505                        510  
  
 Lys Asn Glu Glu Thr Ile Glu Pro Asp Lys Thr Tyr Glu Asn Val Leu  
 515                        520                        525  
  
 Ser Ser Arg Gly Pro Gln Asn Ser Asn Thr Arg Gly Met Glu Glu Ala  
 530                        535                        540  
  
 Ser Ala Pro Gly Ile Ile Ser Ala Leu Phe Lys Thr Gly Phe  
 545                        550                        555  
  
  
 <210> 29  
 <211> 52  
 <212> PRT  
 <213> Homo sapiens  
  
 <400> 29  
 Met Thr Asn Pro Phe Leu Ser Ser Val Ser Thr Phe Phe Ser Pro Phe  
 1                        5                            10                        15  
  
 Leu Pro Lys Ala Asn Phe Leu Cys Ser Ala His Arg Asn Ala His Ser  
 20                        25                        30  
  
 Val Leu Arg Lys Glu Val Leu Cys Asn Ser Lys Ile Ala Ser Lys Ser  
 35                        40                        45  
  
 Gln Leu Asp Arg  
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 <210> 30  
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 <212> PRT  
 <213> Homo sapiens

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<222> (1)..(5)
<223> Serine/threonine phosphatase invariant region

<220>
<221> VARIANT
<222> (3)..(3)
<223> X is any naturally-occurring amino acid

<400> 30

Gly Asp Xaa His Gly
1 5

<210> 31
<211> 7
<212> PRT
<213> Homo sapiens

<220>
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<222> (1)..(7)
<223> Serine/threonine phosphatase invariant region

<220>
<221> VARIANT
<222> (3)..(3)
<223> X is any naturally occurring amino acid

<400> 31

Gly Asp Xaa Val Asp Arg Gly
1 5

<210> 32
<211> 5
<212> PRT
<213> Homo sapiens

<220>
<221> MISC_FEATURE
<222> (1)..(5)
<223> Serine/threonine phosphatase invariant region

<400> 32

Arg Gly Asn His Glu
1 5
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